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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/712,878

11/14/2000

Mark Rice

3123-362

9335

32093

7590

08/26/2004

HANSRA PATENT SERVICES
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EXAMINER

WONG, KIN C

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/712,878

Applicant(s)

RICE ET AL.

Examiner

K. Wong

Art Unit

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 26-41 is/are rejected.
- 7) ☒ Claim(s) 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

This is response to amendment filed on 3/22/04.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims (1-6,9-24, 26-36 and 40-41) are rejected under 35 U.S.C. 102(b) as being anticipated by Rowan et al (5781363).

Regarding claim 35: Rowan et al discloses a disk drive (element 100 in figure 1 of Rowan et al) apparatus including:

- a base (or housing as described in col. 4, line 51-52 of Rowan et al);
- a magnetic storage disk (element 102 in figure 1) rotatably mounted to the base;
- an actuator arm (element 104 in figure 1 - see col. 4, lines 19-22) pivotally mounted to the base;
- a cam (or ramp - see col. 4, lines 49-50 of Rowan et al);
- a transducer head (element 108 and as depicted in figure 1) mounted to a first end of the actuator arm, wherein the transducer head is capable of reading information from and writing information to the magnetic storage disk (in col. 4, lines 23-28 of Rowan et al);
- a voice coil motor (element 110 in figure 1) for moving the first end of the actuator arm radially across the magnetic storage disk from a first position in which the

actuator arm is engaged with the cam to a second position in which the actuator arm is positioned such that the transducer head is capable of addressing information stored on a surface of the magnetic disk;

a controller (element 114 in figure 1) for producing an output signal for actuating the voice coil motor to move the transducer head from the first position to the second position, wherein the voice coil motor is provided a first amount of electrical power over a first period of time to move the actuator arm, wherein following the first period of time plus an additional period of time a back electromotive force of the voice coil motor is sampled to determine a velocity of the transducer head, wherein the voice coil motor is provided with a second amount of electrical power over a second period of time to move the actuator arm, and wherein the first period of time is not equal to the second period of time (in col. 3, lines 7-23; col. 3, lines 37-51; and col. 7, line 1 to col. 8, line 43 of Rowan et al). The limitations of the claim considering satisfied because Rowan et al discloses a velocity control during the loading/unloading of the head.

Regarding claim 36: Rowan et al teaches that wherein the first and second amounts of electrical power are equal (in col. 3, lines 13-19 of Rowan et al).

Regarding claim 40: Rowan et al teaches that wherein the controller comprises a proportional-integral controller (in col. 2, lines 33-55 where Rowan et al describes proportional-integral process I the controller).

Regarding claim 41: Rowan et al teaches that wherein the voice coil motor is provided with a third amount of electrical power over a third period of time to move the

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actuator arm, wherein the third period of time is not equal to the first and second periods of time (in col. 9, line 25 to col. 10, line 28 of Rowan et al).

Regarding claims 1-6, 9-24 and 26-34: the method claims (1-6, 9-24 and 26-34) are drawn to the method of using the corresponding apparatus claimed in claims (35-36 and 40-41). Therefore method claims (1-6, 9-24 and 26-34) correspond to apparatus claims (35-36 and 40-41) and are rejected for the same reasons of anticipation as used above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims (7-8 and 37-39) rejected under 35 U.S.C. 103(a) as being unpatentable over Rowan et al (5781363) in view of Cameron et al (6282049).

Regarding 37-39: the reason for Rowan et al is stated in above. Rowan et al is silent on a counter for controlling the generating amount of electrical power from a table (or profile). Cameron et al is relied on for the teachings of a counter for controlling the amount of electrical power that respectively to the profile (see col. 7, lines 30-67 of Cameron et al).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the actuator (VCM) power of Rowan et al with a counter controlled power output for the actuator as taught by Cameron et al. The rationale is as follows: one of ordinary skill in the would have been motivated to prevents or reduces the acoustic noise in the actuator with a controlled power profile a suggested in col. 3, lines 36-40 of Cameron et al.

Regarding claims 7-8: the method claims (7-8) are drawn to the method of using the corresponding apparatus claimed in claims (35-41). Therefore method claims (1-27) correspond to apparatus claims (37-39) and are rejected for the same reasons of obviousness as used above.

Allowable Subject Matter

Claim 25 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 3/22/04 have been fully considered but they are not persuasive.

Regarding to page 14 in the remarks filed on 3/22/04: applicant argues that Rowan et al fails to provides the arm movement during the first time period and providing the arm movement during the second time period wherein the first period of time is not equal to the second period of time.

The examiner disagrees because Rowan et al discloses in col. 7, lines 8-27 which the first time period to move the arm to unlatch or unpark and concurrently doing the calibration. Wherein the second time period (col. 7, lines 28-40), Rowan et al discloses that the arm moves away from the crash stop (or the ramp) toward the disk which requires less time for this arm movement as compared with the first time period (see col. 7, lines 31-33 and col. 8, line 5-7 of Rowan et al). Therefore, Rowan et al does disclose the differences between the first and the second time period. Thus, the first time period to move the arm and the second time period to move the arm are not equal. Hence, the rejection of claim 35 stands.

Regarding to page 16 of remarks filed on 3/22/04: applicant argues that Rowan et al lacks the "relative duration" for the coil currents. Such recitations are not positively recited or claimed in claim 35.

Regarding claim 36 in page 17 of remarks filed on 3/22/04: applicant argues that Rowan et al fails to discloses or suggests the equal amounts of electrical power for the first and the second time period. Such arguments are contradicting the applicant's arguments on page 15 of the remarks filed on 3/22/04 in regarding to col. 3, lines 10-23 of Rowan et al. Furthermore, the drive current for the coil is a component of the electrical power. Thus, amount of the drive currents are equated to amount electrical power for the coil. Therefore, as noted by applicant for the drive current of Rowan et al, the power quantities are equal for the first and the second period of time.

Regarding claim 41 in page 17 of the remarks filed on 3/22/04: applicant argues that Rowan et al fails to discloses or teaches the third period of time is not equal to the

first and the second period of time. In col. 8, lines 3-25, where Rowan et al discloses the period for moving the arm (i.e., initial movement and subsequent movements or unlatching/unparking, loading and seeking) and each of the periods is different from each others. Thus, Rowan et al does teach the third period that is not equal to the first or the second periods of time. Therefore, the rejection of claim 41 stands.

Regarding claim 5 in page 18 of remarks filed on 3/22/04: applicant argue that Rowan et al fails to discloses a first proportioning value equal to an inverse of the first period of time and second proportioning value equal to an inverse of the second period of time. Rowan et al discloses the noted functions of above in col. 2, lines 39-50 of Rowan et al.

Regarding claims 10-13 of the remarks filed on 3/22/04: applicant argues that Rowan et al fails to discloses the "pseudo-random" for the second period of time. Rowan et al describes in col. 8, lines 7-25 the pseudo-randomness for determining or calculating the period of time for applying drive current or power to the coil. The pseudo-randomness is a result of the changing temperature and the manufacturing conditions that varies the coil resistance, which causes the pseudo-randomness in the time period when the power is applied to the coil.

Regarding claim 18 of remarks filed 3/22/04: applicant argues that Rowan et al fails to discloses the time periods of one thru four and each of the periods is not equal to each other. Rowan et al discloses in col. 7, line 8 to col. 9, line 23 (i.e., unlatching/unparking, loading, seeking and track following).

Regarding claim 19 of the remarks filed on 3/22/04: applicant argues that Rowan et al fails discloses the first, second, third and four quantities of the electrical power are equal. Claim 19 is similar to claim 36, thus, the reasoning for claim 36 is applicable to claim 19.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ryan (6690536) is cited for arm power control.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Wong whose telephone number is (703) 305-7772.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (703) 305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SINH TRAN
PRIMARY EXAMINER

kw

11 Aug 04